



"Dedicated to Public Service"

THE RADIATOR



W6RHC
IRLP #8170



www.gearsw6rhc.org

P.O.Box 202 Chico, CA 95927

Happy New Year

January 2020 Newsletter

GEARS Founded August 13, 1939

News

We enjoyed a great GEARS Christmas meeting, lots of happy people and good desserts. At the meeting we elected two new GEARS board of director officers. Susan Check, KE6LTY will be our new club secretary, Bennett Laskey, K6CEL will serve as a board director.

OARS served a fantastic Christmas dinner. Everyone had a good time and enjoyed a great meal.

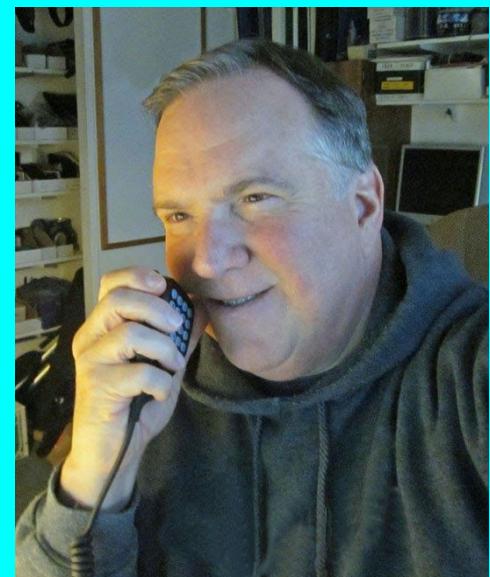
We are planning some interesting speakers and programs for the GEARS monthly meetings. On our January 17th meeting we will be discussing APRS and an introduction to Raspberry Pi for amateur radio. Don't forget that attending a meeting or any GEARS event gives you an entry to win the YAESU FT-70DR radio. Drawing at the March meeting.

Our Ham Cram training course is February 1st, then VEC testing will be the next day on February 2nd.

Our new repeater on mount St. John is operating. Give it a try sometime. 145.410 Mhz PL is 123.0 Negative offset.

The memorial service for Mary Ann Wright will be on Saturday January 11th at Newton Bracewell in Chico.

I'm looking forward to a great 2020. I wish all of our members a great year.



'73
Jim Matthews K6EST
jiminchico@yahoo.com
530-893-3314



Join GEARS on Facebook
www.facebook.com For
timely news and additional
information.

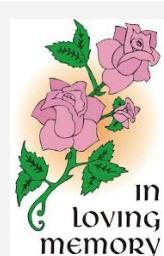
January 2020 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 7pm PARS Net 6:30 GARS Meeting 7:30pm Simplex Net	3	4 VEC testing Yuba City
5 8pm OARS Net	6 7pm GARS Net 8pm ARES Net	7 7:30pm GEARS Net	8	9 7pm PARS Net 7:30pm Simplex Net	10 7pm OARS Meeting	11 9am Chico Breakfast GEARS Board Meeting
12 8pm OARS Net	13 7pm GARS Net 8pm ARES Net	14 7:30pm GEARS Net	15	16 7pm PARS Net 7:30pm Simplex Net	17 7pm GEARS Meeting	18
19 8pm OARS Net	20 7pm GARS Net 8pm ARES Net	21 7pm ARES meeting 7:30pm GEARS Net	22	23 7pm PARS Net 7:30pm Simplex Net	24	25 9am OARS Breakfast
26 8pm OARS Net	27 7pm GARS Net 8pm ARES Net	28 7:30pm GEARS Net	29	30	31	

VEC Testing, FCC License Exam First Sunday of every even numbered month, at the Butte County Search and Rescue Building. Written test at 2:00 pm. For information or registration call Tom Rider, W6JS 514-9211
Chico Breakfast 2nd Saturday of the month 9 am Farmers Skillet 1818, 690 Rio Lindo Ave, Chico
GEARS Board Meeting 2nd Saturday of the month at Vitalant (formally Bloodsource) following the breakfast.
OARS Meeting Second Friday of the month, 7:00 pm, at St. Paul's Church Parish Hall, 1430 Pine St., Oroville
GARS Meeting Second Thursday of the month, 6:30 pm Lutheran Church Hall, 565 Main St. Artois.
Butte ARES Meeting 3rd Tuesday, Except Nov & Dec. at Chico Veterans Hall 7pm. Contact Dale Anderson, KK6EVX 826-3461 for more information.
GEARS Meeting, third Friday of the month, Butte County Search and Rescue Bldg., Chico. Social hour 6:00 pm, meeting at 7:00 pm.
OARS Breakfast 4th Saturday of the month 9am Gold Country Casino & Hotel, 4020 Olive Hwy, Oroville

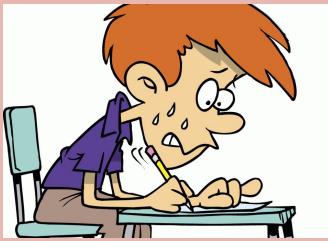
NETS:

OARS Club Net Sunday 8pm 146.655 Mhz - PL 136.5
 GARS Club Net:Monday,7:00 pm 147.105 MHz + PL 110.09
 Butte ARES Net Mondays 8pm 145.290 MHz - PL 110.9
 Yuba Sutter Club Net Monday 7pm 146.085 MHz + PL 127.3
 GEARS Club Net Tuesdays 7:30 PM 146.850 MHz - PL 110.9
 PARS Club Net Thursday 7pm 145.290 - PL 110.9
 Simplex Net Thursday 7:30 p.m. 146.52 no tone
 Yuba Sutter ARES Net Thursdays 7pm 146.085 MHz + PL 127.3
 Sacramento Valley Traffic Net Nightly 9:00 PM 146.850 MHz - PL 110.9



Memorial Service Mary Ann Wright

Saturday January 11th, 2pm
 Newton Bracewell,
 680 Camellia Way, Chico, CA 95926



Ham Cram Prep Course

Rick Hubbard is putting together a Ham Cram prep class for anyone who needs to prepare for the Technician Class test. Saturday February 1st, 2020, the day prior to the scheduled February VEC Testing. Let him know if you have anyone who might be interested. Time and location to be announced.

For information contact Rick rick.hubbard.email@gmail.com

Generating More Than a Signal

Matt Cooper, KL3ER

There's nothing like a hot iron to fire up your enthusiasm.

Each year, I try to take at least one class at my local university. I admit to purposely failing the oenology class several times just to retake it. Last fall semester, I decided to do something different and take the Introduction to Amateur Radio class taught by Eric Nichols, KL7AJ. Amateur Radio always interested me, but I never found a way to learn about it. This class presented the perfect opportunity.

By trade I am a lawyer with little electronics experience and a low aptitude for math, so I was worried about my ability to comprehend the world of Amateur Radio. Thankfully, Eric was a great instructor and was able to get the basic concepts through even my thick skull. The one element of the class that probably hooked me on Amateur Radio, and from which I learned the most, was the class project.

As the class progressed, my fellow students decided on various projects, but I was having a hard time coming up with something that I found interesting and was within my limited skill set. I built the ubiquitous crystal radio kit in the Boy Scouts and wanted to do something different. Over the first few weeks, Eric kept bringing up an article in the October 2010 issue of QST written by John Pivichny, N2DCH: "A Signal Generator for the VHF Operator."¹ Finally, not having found another project and feeling up for a challenge on that particular day, I decided to try to build John's signal generator.

Part Hunter

The process of putting together John's signal generator fostered my budding fascination with radio and electronics. My first task was to gather all the parts, which is not an easy task in Fairbanks, Alaska. I started with Internet searches, trying to find the precise parts called for in John's schematics. For example, I really wanted to find the temperature compensating NPO capacitors so that my final product would have more stability and be true to John's design. After multiple online purchases, a trip to the local Radio Shack and a trip to an electronics part store in Anchorage (over 350 miles from home!), I had everything I needed except the heart of the project: the 5-15 pF dual-gang air variable capacitor.

I felt like I had reached the end of the Internet looking for an air variable capacitor with the proper specifications but no luck. Then I had that light-bulb moment. I re-read John's article and finally saw the author's note at the end, where John mentioned he had several more air variable capacitors he was willing to sell. So I sent John an e-mail and a couple of weeks and few dollars later I had a shiny old capacitor in my hands. Eric donated a vernier dial to the cause and I finally had everything I needed to get started.

Think Twice, Solder Once

I spent some time trying to visualize how everything would go together. I gathered all my parts and tried breadboarding the project in the electronics lab over a weekend. It did not work and I was mildly frustrated.

Taking my failure as a teaching opportunity, Eric suggested I try soldering everything together in the box since, he then told me, VHF oscillators built on breadboards rarely worked. He warned me to keep my leads short.

My soldering skills were minimal, so I practiced with my new used soldering iron on a few spare parts before attempting the real project. I finally felt ready to give it a try. Several hours later, an assembled signal generator appeared. All the connections were made (the solder joints didn't look half bad!), everything fit in the box and the dial turned the capacitor. Next I had to test the signal generator.

I brought everything to class the following day where we had a frequency counter and a reliable power supply. I hooked up the power supple to the generator and the antenna output to the frequency counter. To my surprise, it worked! The frequency counter showed a signal in the 200 MHz range and it actually changed when I turned the dial. We decided to test stability so we left the signal generator running during the 3 hour class. At the end of the class, we noticed that there was some frequency drift and that the box would go off frequency if bumped or jostled.

Further investigation revealed that one of my solder connections was not as good as it looked. We also experimented with the effect of the box cover on the frequency of the signal. I brought my project home, resoldered the connection and tested it again the following week. It worked flawlessly.

At the end of the semester, I was very pleased that I took the class and learned so much. I was particularly satisfied with my experience building the signal generator. I had fun acquiring the parts, assembling them and having it work in the end. Anyone, even a guy to whom science and math are not second nature, can enjoy Amateur Radio.

Matt Cooper, KL3OC, an ARRL member, received his Technician license in November 2010 and his General license in May 2011 as KL3ER. He can be found on the Alaska repeaters and is working on putting together his ham shack while studying for the Amateur Extra class license. Matt can be reached at 995 Willow Grouse Rd, Fairbanks, AK 99712, cooper@arcticprimate.com.

**GEARS / GARS
New Repeater**

IS ON THE AIR

W6RHC West is 145.410 Mhz
PL is 123.0 Negative offset.



GEARS Century Club Members

Rick Hubbard
Bennett Laskey

Thank you very much for your extra support



WIN A NEW DIGITAL YAESU FT-70DR RADIO

Attend GEARS events until March 20th and you will be entered in a drawing for a dual-band digital HT. You get an entry ticket each time you visit: GEARS meetings, monthly GEARS breakfasts, GEARS training event or GEARS VEC.

Club Officers:

President..... Jim Matthews, K6EST
Vice-President..... Kent Hastings, WA6ZFY
Secretary..... Susan Check, KE6LTY
Treasurer..... Kathy Favor, K6FAV
Director..... Rick Hubbard, KI6VOS
Director..... Dale Anderson, KK6EVX
Director..... Bennett Laskey, K6CEL
Past President..... Tom Rider, W6JS
VEC..... Tom Rider, W6JS

DO YOU HAVE OLD QST MAGAZINES IN SEARCH OF A NEW HOME?

Gene Wright has that future home for your QST's, through his project to place QST Magazines in professional offices throughout Chico. Labels placed on the QST's will advertise the Golden Empire Amateur Radio Society, encourages the readers to consider Ham Radio as an interesting hobby, one of not only fun, but which provides opportunities for many and various community services.

Bring your QST's to Gene at the Club meetings or contact: Gene WA6ZRT 530-519-2519



"OK, Joe. That's perfect, tighten her up!"
May 1959 Electronics World

PARTS TALK



PARTS TALK



Get Your Amateur Radio License in a Weekend!

GEARS (Chico-based Golden Empire Amateur Radio Society) is offering

No
Morse
Code!

HAM CRAM SESSION

FCC License Test Preparation and Review Session for the
FCC's Entry-level "Technician Class" License

No
Math!
(Almost)

Technician Exam Prep & Review Session

9AM to 4PM on Saturday, 1 Feb 2020

Bring coffee. There will be a 45 minute lunch break.

Bring Your
Questions!

For Location and Registration:

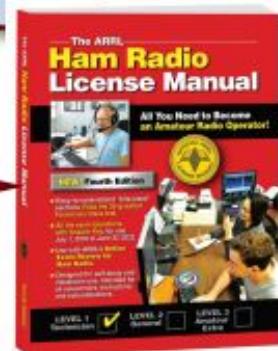
Contact KI6VOS (Rick Hubbard) at

gearsw6rhc@gmail.com, or +1.415.624.5865

*FCC-approved Testing Session * 2PM Sunday, 2 Feb 2020*

Bring a Government Issued ID

Prior to the Ham Cram: Read the ARRL Ham Radio License Manual
[Level 1 Technician] 4th Edition*



Ham Cram Test Prep & Review Session	FREE (as a Community Service from GEARS)
Required Textbook	Amazon Kindle: ~\$20 Hardcopy: ~\$30
FCC-VEC Testing Fee	\$15 (at the door)

The Ham Cram is a Test Preparation and Review Session led by experience Ham Instructors.

During the Session, participants will complete six, 45-minute drills using actual license pool test questions.

- Advanced completion of the required reading is essential!

VERY IMPORTANT NOTE: This is a Test Prep and Review Session; not a training class.

Enroll today, or for more information, contact KI6VOS (Rick Hubbard): gearsw6rhc@gmail.com

*The 4th Edition is required; all prior versions are obsolete.

Other training resources include: <http://www.qrz.com/hamtest/>, <http://hamstudy.org>, Gordon West Tech Study Guide